TECHNOLOGY FACT SHEET

MSC-24215-1 A Description Of A Concentric Nested Torroidal Inflatable Habitat (USPN 8,070,105)

The technology is a new design for a totally enclosed inflatable structure. The unique feature of the design is to build up a total structure by using a central core, and then multiple inflatable tori (doughnut shaped) are built up concentrically around the central core. This provides much greater flexibility in designing the space needed as the minor (cross-sectional) diameter of each tori can be the same, or optimized for the space needed. This design was originally intended for use as containers for habitats for humans in outer space or on remote planets, however, these and related prior inflatable structures could also be useful on Earth as lightweight, compactly stowable, portable special-purpose buildings that could be transported to remote locations and there inflated to full size and shape. The benefits of this design is the capability to optimize how space is utilized or partitioned and the ability to increase size of structure without increasing stress.

Benefits

- Increased flexibility in design - better capability to optimize how space is utilized or partitioned
- Increase size of structure without increasing stress - stay within material capability

Application

- Space-based and terrestrial closed structures and habitats having multiple compartments.

Patent

JSC has received patent protection for this technology (USPN 8,070,105).

Licensing and Partnering Opportunity

This technology is being made available through JSC's Technology Transfer and Commercialization Office, which seeks to transfer technology into and out of NASA to benefit the space program and U.S. industry. NASA invites companies to consider licensing this technology for commercial applications.

Contact Information

If you would like more information about this technology or about NASA's technology transfer program, please contact:

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